

The NIST Hollings Manufacturing Extension Partnership (MEP) Program

U.S. Navy Office of
Small Business Programs
Webcast

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MEP National Network



Non-federal assistance
Centers located in all 50
US states and Puerto Rico,
program managed by NIST



Public-private partnership
with local flexibility



Federal funds, state investments,
private sector fees cover services

- \$146M FY20 NIST MEP; *matched by MEP Centers*
- + \$50M CARES Act
- *Cost share waiver via CARES Act*



Market driven program that
creates high value for
manufacturers



Leverage partners to
maximize service offerings



Extension-based program
transfers technology and
expertise to manufacturers

MEP National Network





NATIONAL NETWORK

One Center in
Every State and
Puerto Rico

Nearly
2,100



Service
Providers
& Partners

Over
1,400



Manufacturing
Experts

Approx.
375

Service
Locations

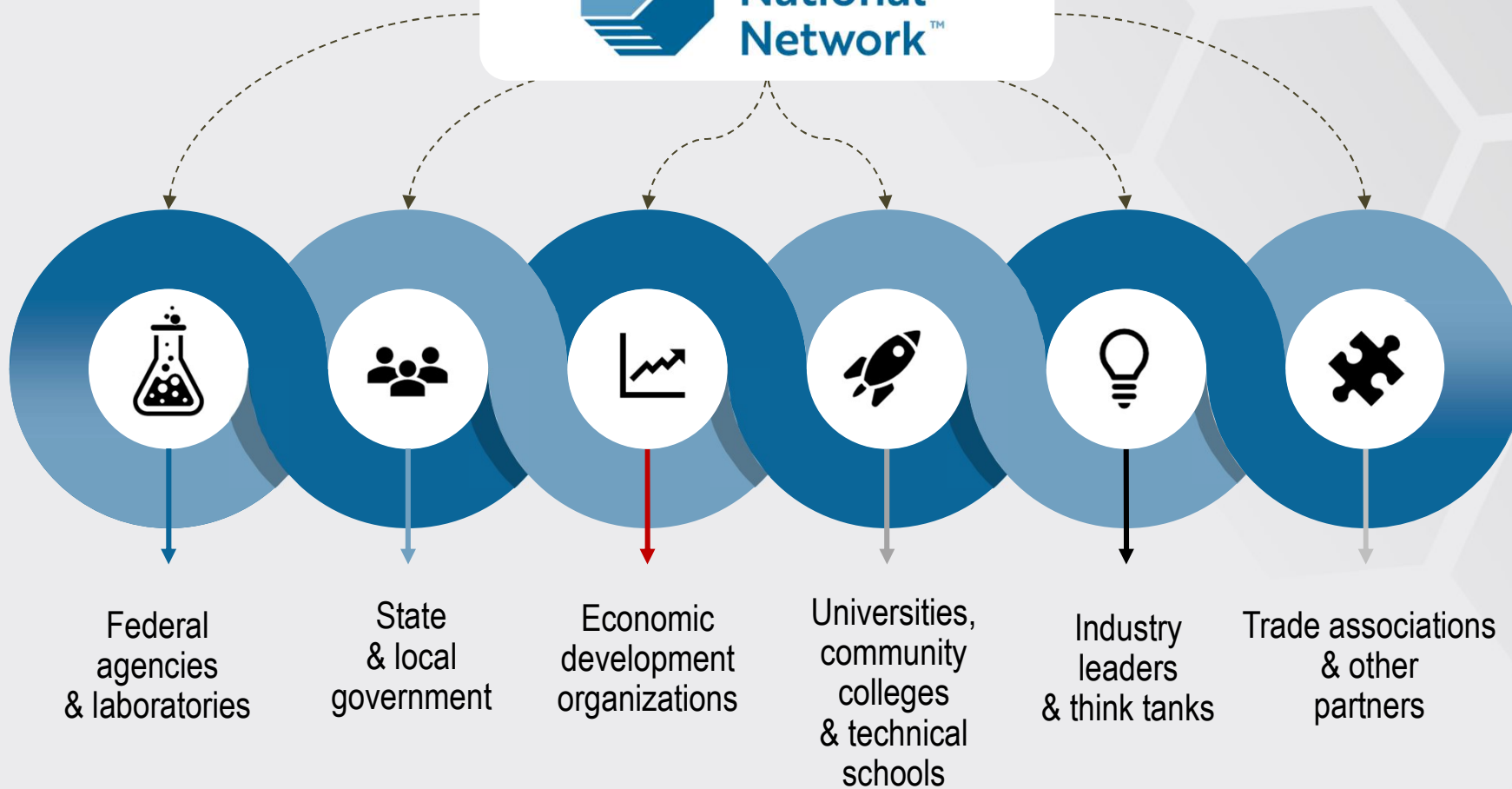




Our Partners



MEP
National
Network™





*In FY2019, the MEP National
Network connected with 28,213
manufacturers, leading to:*

114,650 JOBS Created or Retained

**\$15.7
BILLION**
in New and
Retained Sales



**\$4.5
BILLION**
in Total Investment in
U.S. Manufacturing



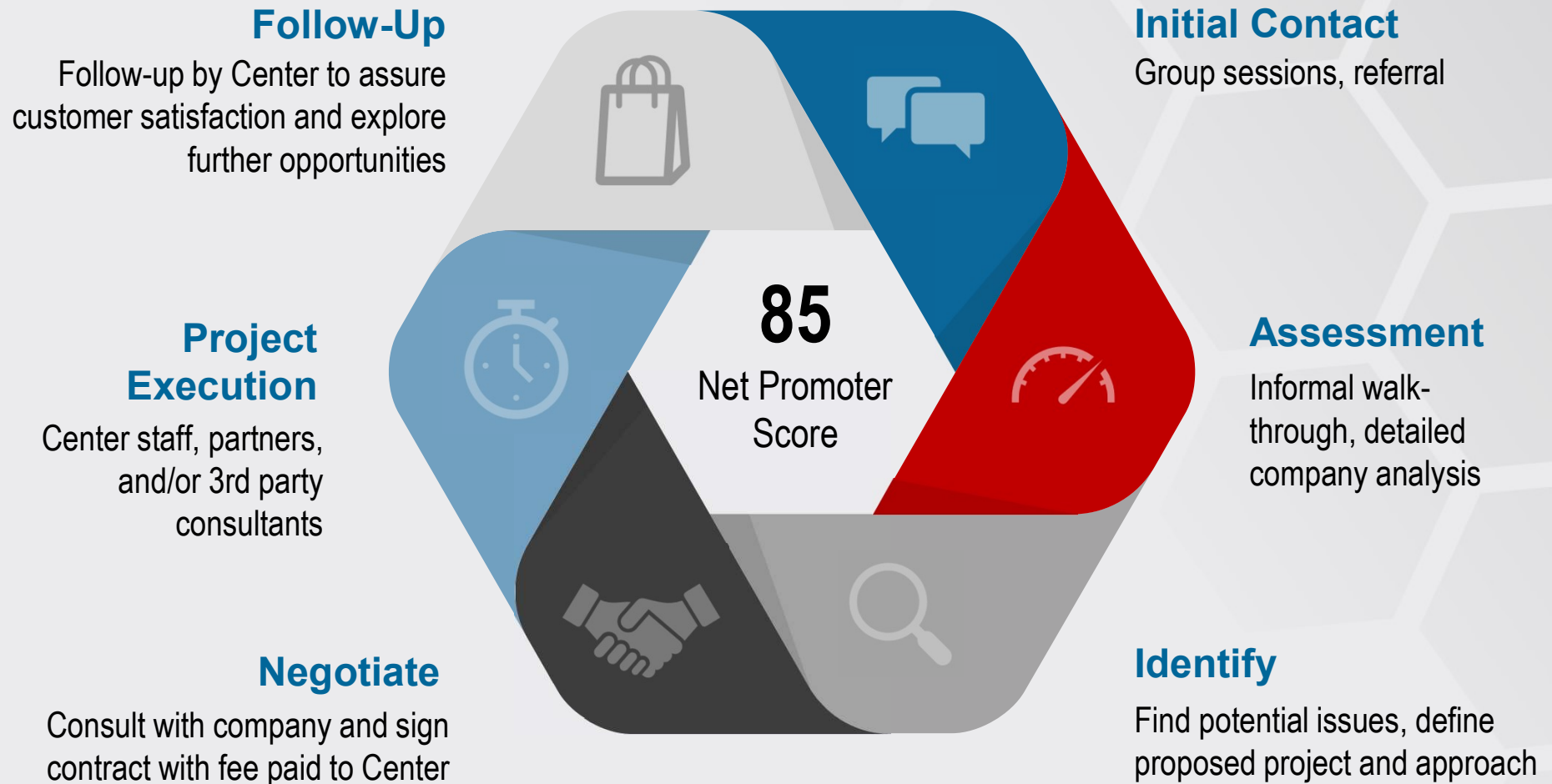
**\$1.5
BILLION**
in Cost
Savings



Numbers are based on survey results from MEP Center clients.



How Centers Work with Manufacturers





Client Challenges

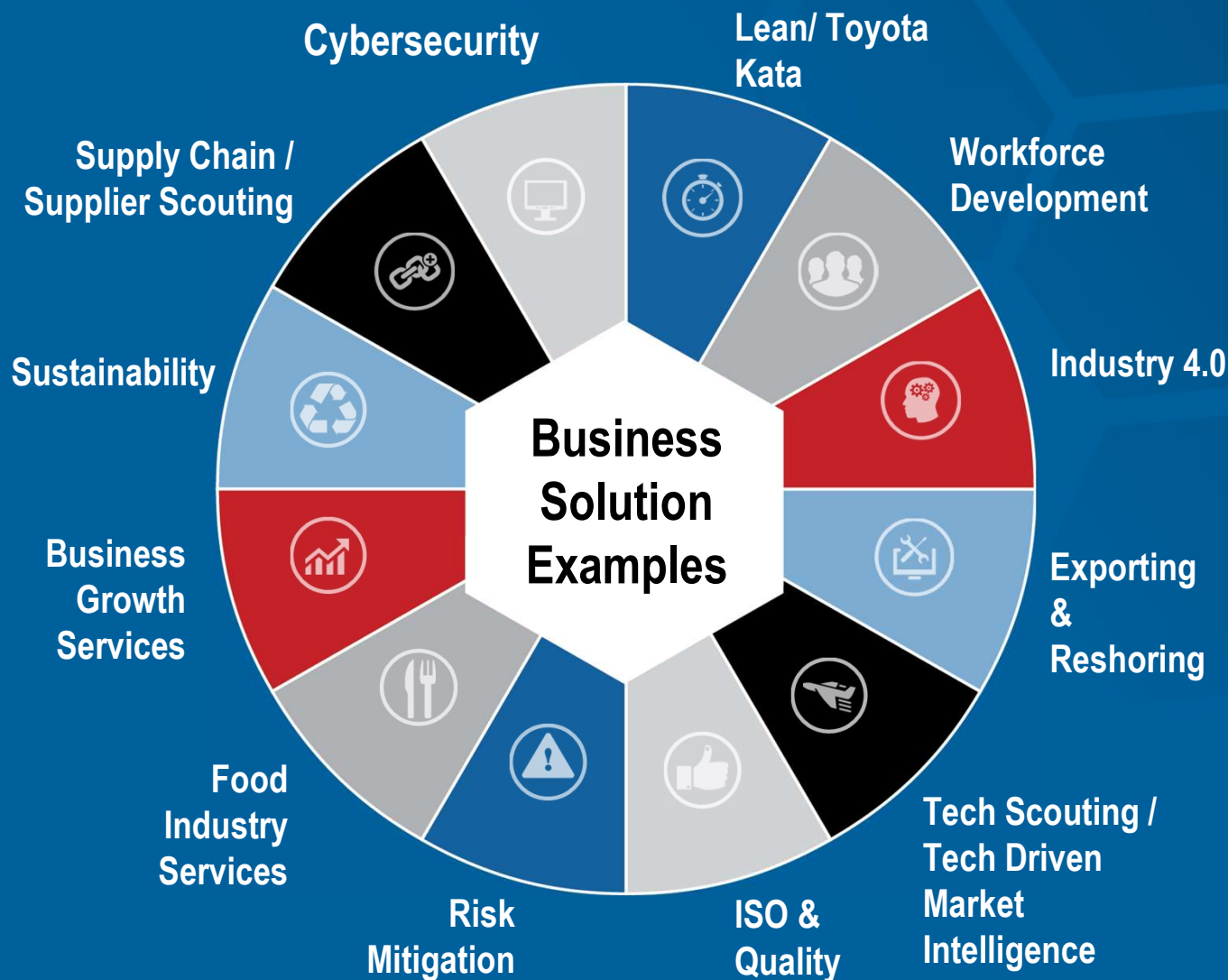
The share of MEP clients reporting **employee recruitment and retention** as a challenge has nearly **tripled**.



Information based on FY 2019 MEP National Network Client Impact Survey



MEP Technical Assistance Provided to U.S. Manufacturers





Active MEP NATIONAL NETWORK Technology Transfer and Transition Support for U.S. Navy

MEP National Network currently supporting:

- small manufacturer participation in Navy Tech Bridges around the U.S.
 - ✓ *ONR / NIST MEP national partnership focused in RI, SC, FL, IN, CA, and WA*
- technology insertion for Navy shipbuilding
 - ✓ *NAVSEA – NIST MEP national partnership focused on Ford Class Carrier production in VA; potential scaling to other ship programs*



Photo from Gerald R. Ford Presidential Foundation



MEP National Network Cybersecurity Support for the DoD



- NIST MEP recently chaired the Cybersecurity for Manufacturing interagency group for DoD-led, whole of government response to 2017 Executive Order 13806 on Assessing and Strengthening the Manufacturing and Defense Industrial Base and Supply Chain Resiliency of the United States
 - ✓ See September 2018 DoD Report to the President
 - ✓ David Stieren, NIST MEP, Chaired the Cyber for Manufacturing Group and led its contribution to Sep 2018 Report
 - ✓ NIST MEP remains active in efforts of DOD Joint Industrial Base Working Group



MEP Cybersecurity and the DoD



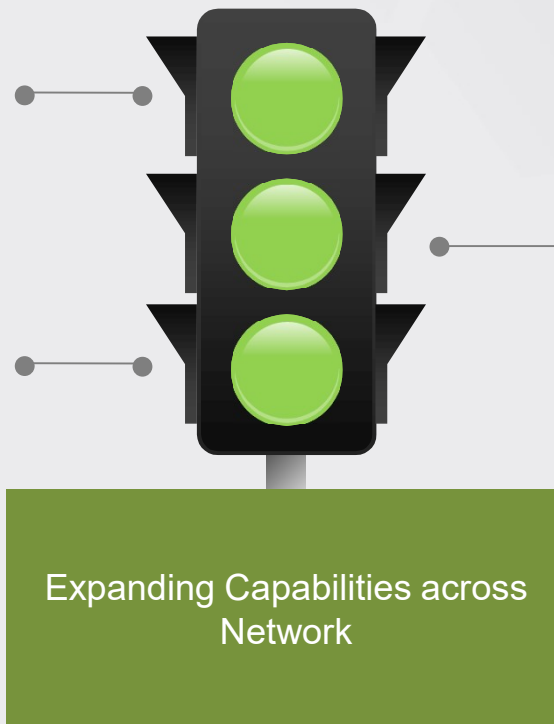
- NIST MEP – OUSDR&E Interagency Agreement (IAA) funding MEP Centers to serve cyber needs of small defense mfg suppliers between Aug 1, 2019 - Dec 31, 2020
 - ✓ National Network award, led by MI MEP, to provide nationwide cybersecurity awareness, hands-on technical assistance, and pilot operational technology (OT) protections
 - Collaborating with NIST Labs
 - Also collaborating with MxD Manufacturing USA Institute in Chicago
 - ✓ MEP Center participation from >30 states, in addition to MI:
*AL, CA, CO, CT, DE, FL, GA, ID, IL, IN, KS, KY, LA
MA, MD, MO, MS, NC, NJ, NY, OH, OK, OR, PA,
RI, SC, TN, TX, WA, WI, WV*



MEP National Network

Cybersecurity Assistance to Small U.S. Manufacturers

- 12 MEP Centers have received ~\$15M OEA funding in FY20, focused on working with state-based organizations on cyber workforce training/education
- NIST Handbook 162 downloaded ~78,000 times since Nov 2017 NIST MEP publication
- Pat Toth, NIST MEP, author



~225 Awareness & Training Events conducted by MEP Centers Nationwide, many jointly with PTACs

NOTE: NISTIR 7621 “Small Business Information Security: The Fundamentals,” has also been downloaded ~165,000 times since publication by Pat Toth and Celia Paulsen, NIST in Nov 2016.



DoD Cybersecurity Maturity Model Certification (CMMC) Program

NIST MEP providing ongoing guidance to MEP Centers' approach

- Future DoD acquisitions will include required certification levels for contractors
- CMMC does not negate DFARS requirements
- MEP Centers will continue to assist small defense manufacturers to help them implement cyber protections they need in conjunction with CMMC levels

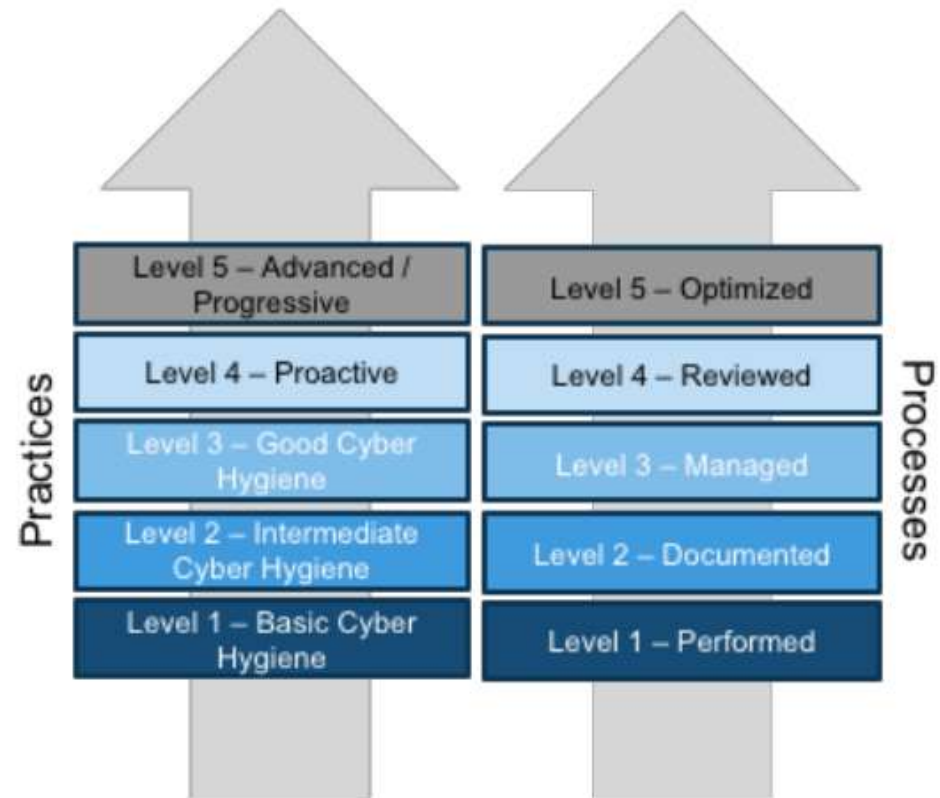


Figure 2. CMMC Level Descriptions



MEP and the Manufacturing USA Institutes

- MEP Center staff embedded at Manufacturing USA Institutes between 2016 and 2020 to help connect small manufacturers with advanced technologies and markets in focus in Institutes
- Results and learnings summarized in March 2019 NIST MEP report
 - ✓ *SMMs tend to explore opportunities before making decisions to commit or implement; interested in demo sites, interactive experiences to help understand technologies.*
 - ✓ *SMMs interested in state-of-the-art techs that can be leveraged in near term, as opposed to R&D-based intellectual property (IP) – SMM needs must match Institute outputs*
 - ✓ *Local resources (less than a two-hour drive) are particularly helpful for engagement.*

LEAD MEP CENTER	MFG USA INSTITUTE & SPONSORING AGENCY
CA MEP Round 2 Award	CESMII - DOE
CA MEP Round 1 Award	Next Flex – DOD
DE MEP Round 3 Award	NIIMBL – NIST
Illinois Mfg Excellence Center Round 1 Award	MxD – DOD
Mass MEP Round 2 Award	AFFOA – DOD
Mass MEP Round 3 Award	BioFab USA – DOD
Michigan Mfg Tech Center Round 2 Award	LIFT – DOD
NC MEP Round 1 Award	Power America – DOE
NY MEP Round 1 Award	AIM Photonics – DOD
NY MEP Round 3 Award	REMADE – DOE
OMEP Round 3 Award	RAPID – DOE
PA MEP Round 3 Award	Advanced Robotics – DOD
PA MEP Round 2 Award	America Makes – DOD
TN MEP Round 1 Award	IACMI - DOE



Other Examples of MEP Support for DoD Manufacturing Supply Chains

- NIST MEP has an active MOU on behalf of the MEP National Network with the Association of PTACs for national collaboration relating to cybersecurity for defense manufacturing between PTACs and MEP Centers
- MEP Centers nationwide have conducted over 80 projects with SBIR companies since the beginning of 2017 (not all DOD SBIR, though)
- MEP Centers nationwide actively participate in many DoD technology transition projects that are conducted by MilTech to rapidly transition new technology to the warfighter.





MEP Response to the National Emergency

- MEP Centers nationwide have been swiftly responding to the current national emergency by helping U.S. manufacturers be agile and innovative in response to growing supply chain fragility, decreasing markets.
 - ✓ *Includes helping U.S. manufacturers respond to the urgent need for personal protective equipment (PPE), medical equipment and supplies*
- MEP National Network response:
 - ✓ *Connecting resources to needs*
 - ✓ *Working directly with state governments*
 - ✓ *Addressing specific issues with manufacturing PPE, medical supplies, and medical devices*
 - ✓ *Maintaining base operations and serving all manufacturers*
- **MEP Program also received \$50M in CARES Act funding – being disbursed to MEP Centers now**



MEP Connecting Resources to Needs

MEP NN currently working with industry orgs, federal, state and local govts., and manufacturers to share critical info, connect resources to address urgent needs including:

- ✓ *Supply chain mapping for critical PPE needs.*
- ✓ *Matching resources to needs in medical, food supply chains.*
- ✓ *Connecting w/state govt partners, agencies to create, operate supply chain portals.*
- ✓ *Determining current, potential critical needs and linking w/mfrs to meet them.*
- ✓ *Identifying alternative materials, specs, resources for mfrs to meet critical needs.*
- ✓ *Helping train workforce and transition workers.*
- ✓ *Connecting manufacturers to national needs identified by federal agencies such as the DoD, FEMA, FDA, and connecting them to financial resources at the SBA*

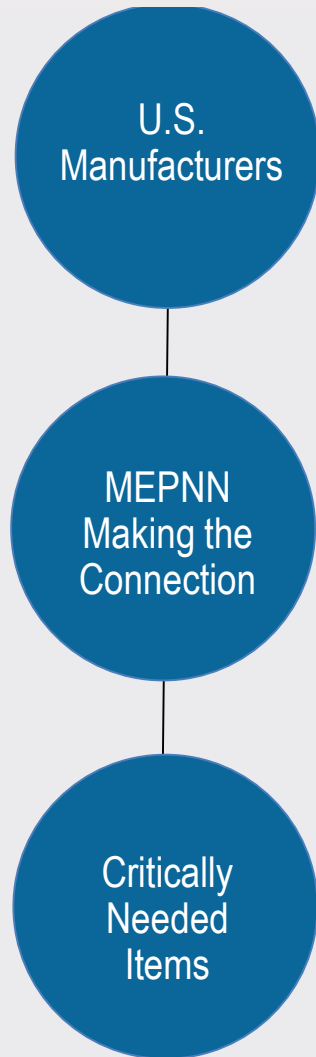


MEP Working Directly with State Governments

MEP Centers are helping to link state government policies and programs to the manufacturers in their states by:

- ✓ *Participating in emergency task forces to address challenges and issues*
- ✓ *Serving as the connection between the manufacturing industry and state procurement efforts*
- ✓ *Managing supply chain portals linking manufacturers to demand and organizing them to deploy as needs change at the state level*
- ✓ *Connecting manufacturers with state resources.*

Production, Engineering
Capabilities & Capacities
& Business Interests



Production Opportunities
& Needs from
Supply Chains

MEP Supplier Scouting

- Mobilize MEPNN to respond to national needs for critical, short-supply products.
- Bring supply opportunities to U.S. manufacturers.
- **Connect** products, capabilities, capacities of U.S. (small) manufacturers with:
 - National and market needs.
 - Needed new business.
- **Provide *assistance* to manufacturers, including:**
 - Technical manufacturing services for products, processes.
 - Manufacturing Strategy and Scale-up.
 - Production Optimization, (Re)tooling (Lean/Quality).
 - Supply Chain Requirements and Market Diversification.
 - Innovation and Product/Process Development.
 - IP Management and Financing/Access to Capital.
 - Workforce.



MEP Supplier Scouting

- MEP Center scouts in every state and Puerto Rico leverage knowledge of local manufacturers and individual Center best practices to identify potential suppliers for critically needed products – typically within 1 week.
 - MEPNN scouts for U.S. manufacturers that are capable and interested in supplying needed products.
 - Products sought are real, immediate, viable business opportunities for U.S. manufacturers that help remedy critical needs.
 - MEP Supplier Scouting services can apply at national and state levels.
- MEP Scouting connections can also lead to provision of MEP Center assistance to firms per specific supply needs and requirements.
 - Market diversification for manufacturers.
 - Supply chain requirements (certifications, etc.).
 - Other technical assistance as appropriate.

Key to MEP Supplier Scouting success is the MEP National Network – not the tools utilized.



MEP Addressing Specific Issues with Manufacturing PPE, Medical Supplier, Medical Devices

MEP Centers are currently:

- ✓ Guiding manufacturers to answers, solutions and information about testing protocols, quality testing and required certifications.
- ✓ Addressing issues of potential legal liabilities arising from the production of:
 - *PPE including examination gloves, face shields, goggles/masks, gowns, N95 respirators, powered air purifying respirators, surgical face masks*
 - *Medical supplies including catheters, flow-splitters for oxygen supply, nasal cannulas, oxygen masks, Thorpe tube flowmeters and Venturi masks*
 - *Medical devices including beds, cool misters, infusion pumps, laryngoscopes, negative pressure rooms, noncontact thermometers, oxygen concentrators, pulse oximeters and ventilator machines.*



MEP Maintaining Base Ops, Serving All Manufacturers

MEP NN continues to fulfill MEP Program mission to strengthen and empower U.S. manufacturers to maintain the health of the U.S. manufacturing base as it faces an extraordinary emergency that will have long-lasting effects.

MEP Centers are currently:

- ✓ *Working with companies needing access to capital thru loans, lines of credit, cash*
- ✓ *Helping businesses protect their workforce and their workplace.*
- ✓ *Guiding manufacturers as they examine and stabilize their own supply chains.*
- ✓ *Helping companies engage customers in new and different ways.*
- ✓ *Examining ways manufacturers can use technologies to improve productivity.*
- ✓ *Protecting manufacturers against cybersecurity threats.*



Questions / Discussion

The MEP National Network has a decades-long history of working with many DoD components and programs – with a specific emphasis on providing hands-on technical assistance to small defense manufacturers within the defense industrial base.

The MEP National Network is a viable partner to connect with U.S. manufacturer needs – one at a time and on a national scale, by the 100s/1000s – in response to and in preparation for recovery from the National emergency.

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